



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10

1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ENVIRONMENTAL
CLEANUP

October 24, 2012

Alison O'Sullivan
Suquamish Tribe
18490 Suquamish Way
Suquamish, Washington 98392

Re: Follow-up regarding the EL/CA Bremerton Auto Wrecking/Gorst Creek site in Gorst, Washington

Dear Ms O'Sullivan:

Thank you for your comments on the Bremerton Auto Wrecking-Gorst Site Engineering Evaluation-Cost Analysis located at or around 4275 State Highway 3 in Gorst, Washington.

I have attached responses which address your comments on the EL/CA document. Please let me know if you want to discuss this further and we can schedule a time. In addition, please let us know if the Suquamish Tribe is still interested in a government to government consultation and we will make the appropriate arrangements.

EPA Region 10 hopes to continue moving forward with potential work for this site, and we look forward to working with the Suquamish Tribe.

Sincerely,

for Jeffery Rodin
US EPA, Federal On-Scene Coordinator

cc: Mr. Richard Brooks
Suquamish Tribe

Ms. Diana Boquist
EPA Tribal Coordinator

Response to Suquamish Tribe Comments

Appendix C – Streamlined Human Health Risk Assessment

1. There is little to no integration of the risk assessments into EE/CA report. *Summaries of the risk evaluations are provided in Section I, with the full text, tables, and figures provided in Appendices C and D. The risk evaluations play an integral part of the EE/CA process. The risk evaluations are used to determine whether a removal action is required to protect public health or the environment from potential exposure to site chemicals. Risk evaluation results are also used to develop ARARs, which the removal action, among other goals, must comply with to the extent practicable.*

2. The Tribe cannot support the level of uncertainty in the risk calculations in the HHRA that arise from data gaps and flaws related to surface water and sediment sample results (too few samples), the lack of clearly identified exposure parameters, and the lack of cumulative cancer risk calculations.

a. Regarding "data gaps and flaws related to surface water and sediment sample results" Risks were evaluated using the data available at the time the HHRE was performed. Sediment samples were collected during the 2011 investigation; however, surface water samples were not collected during that time due to the lack of water flow in Gorst Creek in the vicinity of the site. Instead, valid and useable surface water data from previous investigations were relied upon. The uncertainty this may create in the evaluation is noted in the HHRE report. Given this uncertainty, evaluation of the surface water and sediment data was based on screening levels with highly conservative exposure assumptions relative to the types of human receptors assumed in the HHRE (i.e., recreational users wading in the creek water). Screening levels for surface water data were based on residential exposure via tap water consumption and AWQC for incidental water ingestion and consumption of aquatic organisms. Similarly, sediment data were compared to screening levels based on incidental soil ingestion by residents. The exposure factors (e.g., ingestion rate, dermal contact time, and exposure frequency) for a residential scenario incorporated into the HHRE screening levels are significantly higher than those for a recreational scenario. While consumption of aquatic organisms from Gorst Creek was not considered a complete exposure pathway based on available site use information, the screening levels used in the HHRE would be protective of this scenario.

b. Regarding "the lack of clearly identified exposure parameters": Specific exposure assumptions for the USEPA default risk-based concentrations or Federal and state standards used in the HHRE can be found in the references indicated throughout the HHRE section of the EE/CA. Several exposure assumptions are described in the text of HHRE section.

c. Regarding "the lack of cumulative cancer risk calculations": The HHRE is a streamlined assessment performed in accordance with Federal guidance for assessing risks associated with non-time critical removal actions (USEPA 1993). They do not require a baseline or comprehensive risk assessment, in which cumulative risk calculations are typically performed. In order to be streamlined, the HHRE is focused on comparing site concentrations to conservative risk-based concentrations or applicable human health standards, rather than forward calculation of exposures and risks.

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3. It is not clear why the EPA industrial worker RSL being used when most of the surrounding area is residential (urban reserve) and Gorst Creek is such a crucial element in Tribal fishery activities.

Onsite soil concentrations were compared to industrial/commercial worker screening levels because Kitsap County comprehensive land use planning indicates that zoning for the site and immediate surrounding area will remain industrial and commercial in the future. Therefore, exposure to chemicals in onsite soil is not considered a complete pathway for a residential scenario. Access to the site is restricted to an easement through the adjacent property. Residents have not been observed to routinely trespass on site. However, a scenario in which individuals, including residents from the surrounding area, may trespass on the site and come into contact with onsite soil was included in the HHRE. For residents in the surrounding area, potential exposure to site-related chemicals in groundwater used as drinking water, surface water, and sediment was evaluated. Access to Gorst Creek surface water and sediment by residents, or visitors to the area, was evaluated under the recreational scenario. Exposure assumptions for the recreational scenario are the same for all individuals, regardless of residence.

4. The risks to Tribal populations are not clearly presented. Exposure scenarios should be protective of tribal treaty rights to fish and harvest.

As described in the response to comment #2, screening levels for surface water data were based on residential exposure via tap water and AWQC for incidental water ingestion and consumption of aquatic organisms. Similarly, sediment data were compared to screening levels based on residential soil ingestion.

The information we have indicates that the Tribal fishery is located near the mouth of Gorst Creek on Sinclair Inlet, at a significant distance from the site. Surface water concentrations near the site are below levels of human health concern, so it is expected that concentrations 2 to almost 4 miles from the landfill will be much lower. The information we have also indicates that fishing does not occur on the Gorst Creek downstream of the site, except at the inlet (per Mike Huff, Gorst Hatchery manager, in 2003). Attempts to contact representative of the Suquamish Tribe via phone in October 2011 to confirm this assertion, received no response.

5. Furthermore, there is no evaluation of a child's exposure to either sediment or surface water and no analysis of dioxin/furans.

See response to comment #2. The USEPA default exposure assumptions for childhood are incorporated into the residential screening levels and AWQC used to screen surface water and sediment concentrations. Again, these levels are conservative in light of activities likely to occur in the Gorst Creek surface water and sediment in the vicinity of the site (i.e., wading).

There has been no evidence that dioxins/furans are present at the site; therefore, they have not been included in analyses performed on site samples. These compounds are associated with certain types of combustion, pulp/paper manufacturing, and other industrial processes. The site

hazard assessment conducted by Hart Crowser in 2000 identified the contaminants of concern for further evaluation, which included pesticides/PCBs, SVOCs, TAL metals, and VOCs.

6. The report erroneously states that there is no worker contact of the surface waters. This is incorrect. County, WDFW and Suquamish employees are in contact with the waters when conducting stream surveys (this is a fish bearing stream).

The HHRE does not state that there is no worker contact of Gorst Creek surface water. Nevertheless, the screening levels used to evaluate surface water and sediment data would be protective of workers who intermittently conduct stream surveys and who are likely fully clothed and wearing boots.

7. In addition the report also states that no fish are taken from Gorst Creek. This is also incorrect, county residents illegally take fish from the stream and fish taken at the hatchery for spawning are given to tribal members, employees, residents, and the food bank.

The HHRE states "Fishing reportedly does not occur on Gorst Creek downstream of the site; rather, fish are harvested from Sinclair Inlet (Huff 2003)." The information we have indicates that legal fishing does not occur on the Gorst Creek downstream of the site, except at the inlet (per Mike Huff, Gorst Hatchery manager, in 2003). Attempts to contact the representative of the Suquamish Tribe via phone in October 2011 to confirm this assertion, received no response. With respect to illegal fishing, we can only rely on the facts that we identify during site investigations..

Responses to Comments on the Gorst Creek Streamlined Ecological Risk Evaluation (SERE)

Comment: There is little information on the effects of contaminants on the environment or any discussion of existing conditions and the impacts on (reduction of) habitat. There are many unsupported conclusions that either require the addition of supporting data or are erroneous and need to be removed. For example: Page 1-14—Risks to aquatic dependent wildlife that may forage in Gorst Creek appear to be minimal. There does not appear to be data that supports this statement. This statement seems contradictory to information in the streamlined ecological risk assessment that states: "Based on these investigations, DDT, DDE and PCB's in sediment in Gorst Creek downstream from the site appeared to be of greatest concern from an ecological standpoint, sediment concentrations of these chemicals exceeded their respective probably effect concentration indicating that the concentrations were great enough to adversely affect benthic invertebrates."

Response: Section D.2.1 provides a brief description of vegetative cover on the landfill surface.

Presently, the top of the landfill is flush with the surrounding topography over much of the landfill surface and is overgrown with saplings, blackberry bushes, and other vegetation. The invasive Himalayan blackberry (*Rubus armeniacus* or *R. discolor*) is the predominant plant species on the landfill surface.

We agree that the description is brief. However, a thorough characterization of the landfill surface and Gorst Creek near the land fill was beyond the scope of the SERE.

The reviewer's comment that the SERE includes contradictory statements appears to be based on inadvertently comparing statements made regarding different assessment endpoints as well as 2004 versus 2011 sample results, which differed. Only 2011 results were used quantitatively in the SERE. The following statement (from Section D.3.2) pertains to 2004 sample data (not used in the SERE) and the benthic macroinvertebrate assessment endpoint.

Based on these investigations, DDT, DDE and PCB's in sediment in Gorst Creek downstream from the site appeared to be of greatest concern from an ecological standpoint; sediment concentrations of these chemicals exceeded their respective probably effect concentration (PEC, MacDonald et al. 2000), indicating that the concentrations were great enough to adversely affect benthic invertebrates.

The following statement is based on 2011 sample results and pertains to the wildlife assessment endpoint.

Risks to aquatic dependent wildlife that may forage in Gorst Creek appear to be minimal.

Clarification will be added to the SERE as appropriate.

Comment: Two of the four species used for the ecological risk evaluation were migratory. Use of migratory species is not protective, as using an exposure duration of less than one (1) year is not representative of permanent residents and significantly underestimates risk. The receptors selected are representative of multiple species and should also represent the most sensitive species that could potentially be present. Bioaccumulation was discussed in a very limited manner (earthworms) and more detailed discussion is needed. Additional discussion is warranted to evaluate risk to higher trophic levels.

Response: Potential risks for the American robin and swallow were calculated two ways: (1) assuming that they spend all of their time at the site (Site Use Factor [SUF] = 1 and Exposure Duration [ED] = 1) and (2) assuming they are migratory and spent only a portion of their time at the site (SUF and ED < 1). Both sets of risk estimates are presented in the SERE (see Table D-13). The first set of risk estimates are representative of avian species that are year-round residents. If desired, these risk estimates may be used for risk management decisions by the Suquamish Tribe and/or the USEPA.

Bioaccumulation was considered both for terrestrial and aquatic-dependent wildlife through use of literature-based uptake models. However, we acknowledge that the SERE contains little discussion regarding contaminants known to biomagnify in food chains (e.g., PCBs). Additional discussion will be added to the SERE.

The SERE focused on small to medium-sized wildlife species because such species have small home ranges, greater body-weight normalized food-ingestion rates, and high soil/sediment ingestion rates, all of which increase their exposure to site-related contaminants. Predatory wildlife species (e.g., eagle, hawk, fox, etc.) have larger home ranges and ingest comparatively little soil/sediment while foraging, which tends to reduce their exposure to site-related chemicals.

Consequently, small- to medium-sized wildlife species provide more conservative models for evaluating risk, especially for comparatively small sites such as the Gorst Creek – Bremerton Auto Wrecking Landfill site. Several predatory wildlife species will be added to the SERE to demonstrate this point.

Comment: Please explain how direct sediment exposure is a "minor" exposure pathway for fish, amphibians and other aquatic organisms. Basing a "no effect" on a mortality endpoint significantly underestimates potential impacts. Under the ESA, any adverse effect must be considered and in most cases will be judged as deleterious for individuals (including behavior, immunocompetence etc.). In addition, were the species selected for the bioassay appropriate and representative of those present in Gorst Creek? Even closely related species can exhibit widely varying responses to one toxicant under identical conditions.

Response: The statement quoted in this comment appears to pertain to the last sentence in Section D.3.4 (Ecological Conceptual Site Model), which states:

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For pelagic aquatic organisms, direct exposure to contaminated surface exposure and food are the principal routes of chemical exposure.

Whenever possible, reproduction and/or growth endpoints were used in the SERE. For example, most of the toxicity reference values (TRVs) for birds and mammals in Table D-8 are based on reproduction or growth endpoints. A survival TRV was only used when a reproduction or growth TRV was unavailable.

Standardized sediment bioassays were conducted on the SERE. The USEPA (2000) methodology that was followed for the bioassays specifies that survival and growth endpoints are to be evaluated. Of these endpoints, we acknowledge that the growth endpoint is the more sensitive measure of potential effects.

The test organisms used in the bioassays (*Hyalella azteca* [amphipod] and *Chironomus dilutes* [midge]) are common freshwater invertebrates and are expected to occur in Gorst Creek near the site. Hence, we posit that the species used are appropriate and representative of those present in Gorst Creek.

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